



Species

The First Record of *Geranium molle* var. *album* (Geraniaceae) from Syria

Mohammed H. Mahklouf

Department of Botany, Faculty of Sciences, University of Tripoli, Libya; Email: mahklouf64@yahoo.com

Article History

Received: 14 October 2019

Accepted: 23 November 2019

Published: November 2019

Citation

Mohammed H. Mahklouf. The First Record of *Geranium molle* var. *album* (Geraniaceae) from Syria. *Species*, 2019, 20, 204-209

Publication License



© The Author(s) 2019. Open Access. This article is licensed under a Creative Commons Attribution License 4.0 (CC BY 4.0).

General Note

 Article is recommended to print as color digital version in recycled paper.

ABSTRACT

Geranium molle L. var. *album*, is reported for the first time from Sqoubin district belongs to Lattakia governorate, it is morphologically described and photographed. This variety is distinguished by its unique white flowers among all subspecies and varieties of the *Geranium molle*.

Keywords: *Geranium molle*, var. *album*, Geraniaceae, Sqoubin, Lattakia

1. INTRODUCTION

The genus *Geranium* L. comprises between 400 to 430 species in temperate areas and tropical mountains throughout most of the world (Aedo *et al.*, 1998a; Aedo *et al.*, 1998b). It is native to the Mediterranean and sub-Mediterranean areas but is now naturalized in other parts of Europe, in south western and central Asia and North Africa. It is an introduced species also in North America, where it is known as Dovefoot Geranium or Awnless Geranium. It is a noxious weed in the Pacific Northwest and quickly forms a

groundcover on open areas, among grasses, and in planting beds. It is found in dry meadows, hedges, banks, and waste ground. It prefers sunny places on sandy and relatively dry soils, at an altitude of 0–1,000 meters (0–3,281 ft) above sea level (Piganti, 1982).

A brief history of the generic delimitation and infrageneric classification, as well as a description of the genus, can be found in Aedo (1996). Besides, a key for subgenera and sections can be found in Aedo et al. (1998b and 1998a, respectively). According to the currently accepted classification (Yeo 1984), *Geranium* is divided into three subgenera: subgen. *Erodioidea* (Picard) Yeo, subgen. *Robertium* (Picard) Rouy, and subgen. *Geranium* (Aedo 1996, 2001; Aedo et al., 2005). As it known, the flowers of the *Geranium molle* L. are pink in color in all its known subspecies and varieties except for var. *album* which characterized by its white flowers. Pink flowered *G. molle* is already recorded in the flora of Syria without determining its infra species status which belongs to subsp molle (Mouterde, 1970). In this work white-flowered *G. molle* var. *album* was collected from Sqoubin district belongs to Lattakia governorate and recorded as a new record for the first time in the flora of Syria.

2. METHODS

In 2010, Interesting specimens of *G. molle* var. *album* were seen in large populations and collected during botanical explorations at Sqoubin district belongs to Lattakia governorate 35° 33' 56.82" N, 35° 50' 01.59" E (Figure, 1 & 2), this population found in large groups of individuals. The specimens were monitored for two successive growing seasons (2010, 2011) and photographed in the field before collection. The collected specimens were brought to the herbarium and subjected to detailed morphological examination with other relevant information including photos of the flowers, fruits, and seeds for emphasizing identification, other specimens were subjected to usual herbarium techniques such as pressing, drying, mounting, labeling. The identification of the studied taxon was authenticated by the author, Department of Botany, Faculty of Sciences, University of Tripoli, with the aiding of data from the following literature (Jafri & El-Ghadi, 1973; Zohary, 1972; Mouterde, 1970; Davis, 1967). The voucher specimens were deposited at the national herbarium of the Department of Botany, Faculty of Sciences, University of Tripoli, Libya.

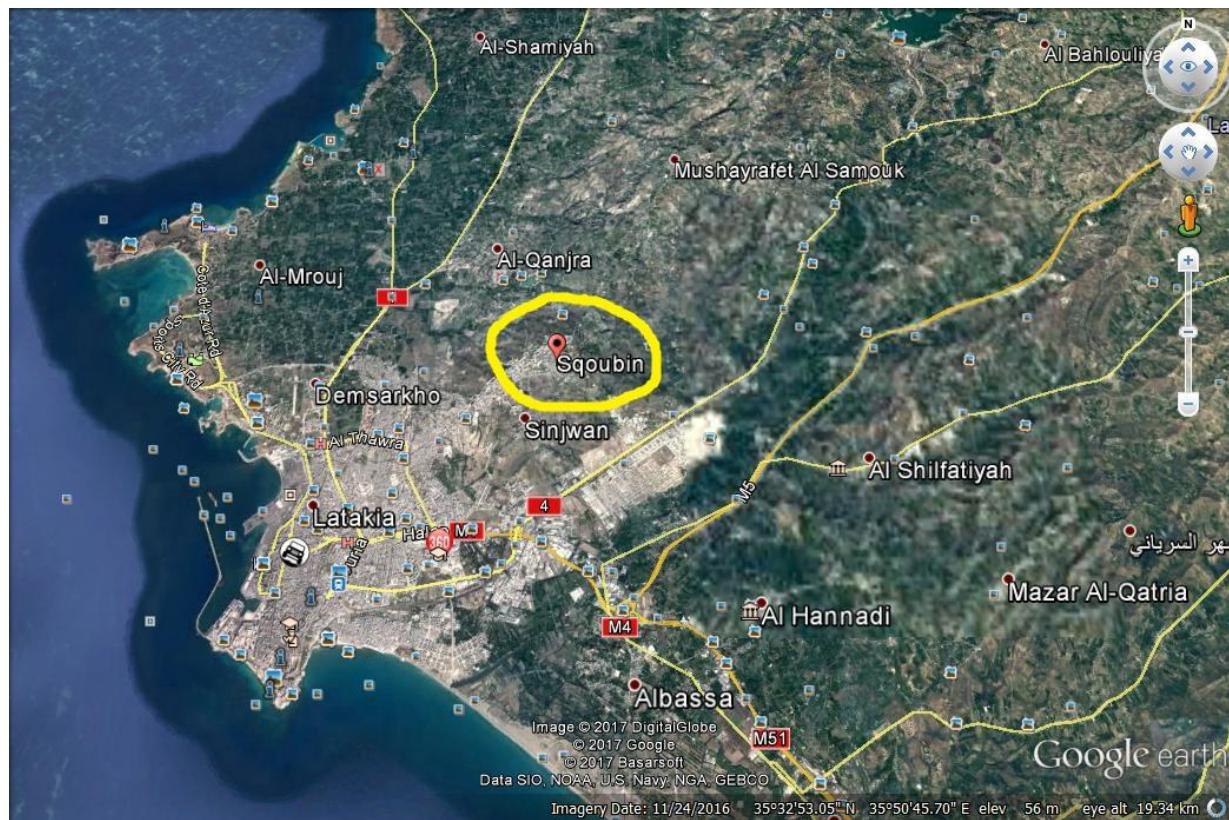


Figure 1 Map of Syria showing the location of Lattakia governorate.

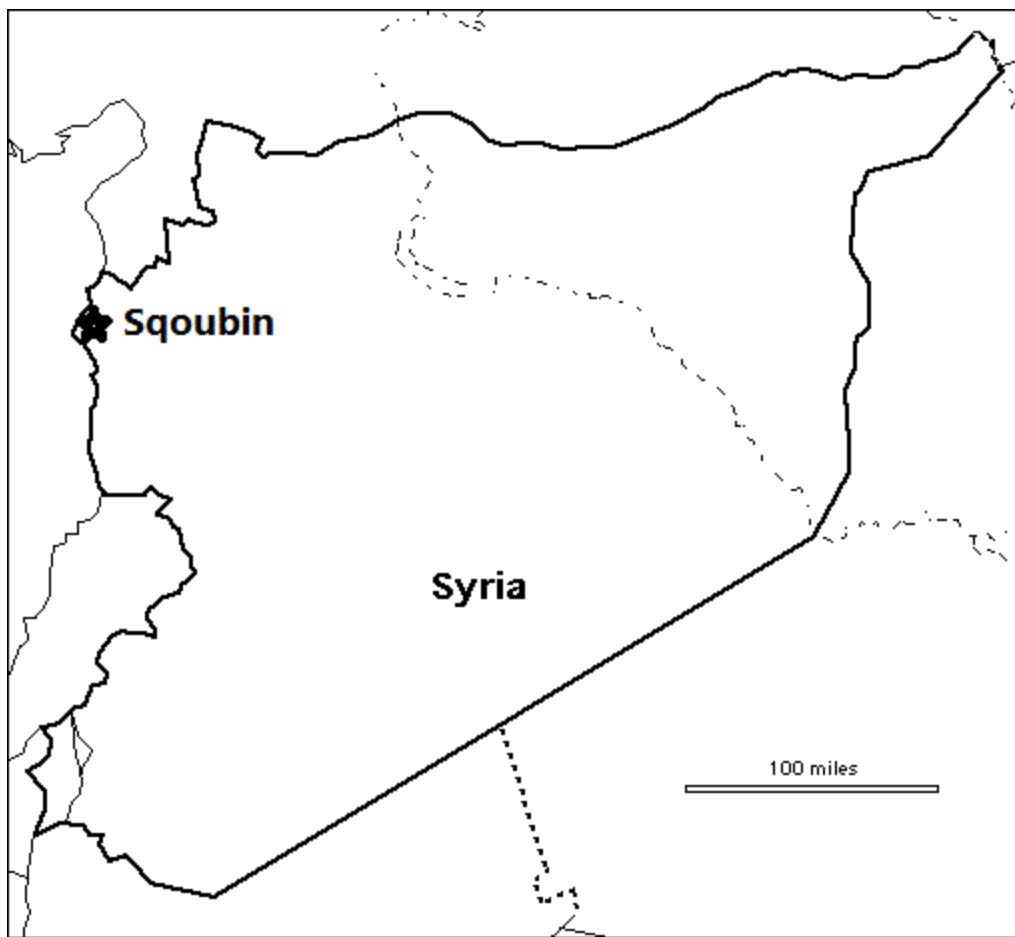


Figure 2 Lattakia governorate showing the location of Sqoubin district.

Description

Geranium molle var. *album* (Picard) Graebn. in Asch. & Graebn.

Annual up to 40 cm tall, covered with glandular and eglandular hairs with erect or ascending branches. Leaves up to 4 cm in diameter, covered with b glandular and eglandular hairs on both surfaces, basal rosette with up to 7 cm long petiole: uppermost alternate and subsessile to sessile. All reniform to orbiculate, palmatifid or palmatispartite to less than 2/3 into 5 - 7 oblong, cuneate, obtuse or incised lobes, each often divided into 3 shallow lobules; stipules membranous, oblong-lanceolate to broadly ovate 4-5 mm long, acute, softly hairy. Inflorescence 2-flowered, peduncle 1-4 cm long, shorter than the subtending leaf, hairy. Flowers 1-1.5 cm across; pedicel 5 - 10 mm long, ascending often deflexed at the base and up curved after flowering, beset with short glandular and long eglandular hairs; bracts oblong-lanceolate. 2-4 mm long; sepals ovate-lanceolate to elliptic, three of which 3-5 x 2 mm, 5-nerved, the other two 1 mm wide and 3-nerved, white hairy outside, with short red mucro, membranous marginated; petals white, obcordate-cuneate. 4 - 5 x 2- 3.5 mm, hairy near the base. Deeply emarginate at the apex; stamens 10, free, filaments lanceolate-ovate, widen gradually toward the base, white, glabrous, anthers yellow; ovary with 5 carpels. Mericarps 1.5 mm long, ellipsoid-ovate, glabrous, transversely ridged and rugose, beak 8 mm long, hairy; seeds brown ellipsoid-globose, smooth (Figure. 3, 4).

Fl. March-May.

Note: the description of the studied taxon was done by the author on the bases of the examined specimens.



Figure 3 *Geranium molle* var. *album*, Habit.



Figure 4 *Geranium molle* var. *album*, Flower

3. RESULT AND DISCUSSION

White-flowered specimens of *Geranium. molle* var. *album* were collected for the first time from Sqoubin district belong to Lattakia governorate in two consecutive growing seasons 2010, 2011, it is easily distinguished by having white flower and yellow anthers, this white-flowered variety is not known in the literature reviews except Britain (online Atlas of the British and Irish flora in this Link (www.brc.au.ul/plantatlas/plants/geranium-molle) treated as *G. molle* without any infraspecific treatment and consideration. Accordingly, our collection constitutes important documentation of this white-flowered variety of *G. molle*, and constitutes a new point of its international distribution,

Geranium molle var. *album* is treated in the catalogue of life (2019) as a synonym for *G. molle*, last updated in 1-5- 2019, and accepted name in Global Biodiversity Invasive Facility GBIF (GBIF Secretariat 2019). According to online Atlas of the British and Irish flora (www.brc.au.ul/plantatlas/plants/geranium-molle), it is a European Southern-temperate element; widely naturalized outside its native range.

Habitat

Grassy slopes of clay soils under Mediterranean forest, alt. 105 m.

Local distribution and Conservation status

Syria, Lattakia governorate, Sqoubin district, Northwest Syria, 35° 33' 56.82" N, 35° 50' 01.59" E (Fig 1 & 2) Known only from the gathering locality. In the absence of data on distribution and abundance, it is currently categorized as belonging to Data Deficient (DD) (IUCN, 2012; IUCN, 2014).

Authors contributions

The work fully done by the author

Funding: This study has not received any external funding.

Conflict of Interest: The authors declare that there are no conflicts of interests.

REFERENCE

1. Aedo, C. 1996. Revision of *Geranium* subgenus *Erodioidea* (Geraniaceae). *Systematic Botany Monographs* 49: 1–104.
2. Aedo, C., F. MUN~ OZ GARMENDIA, and F. PANDO. 1998a. World checklist of *Geranium* L. (Geraniaceae). *Anales del Real Jardín Botánico de Madrid* 56: 211–252.
3. Aedo, C. 2001. Taxonomic revision of *Geranium* sect. *Brasiliensis* (Geraniaceae). *Systematic Botany* 26: 205–215.
4. Aedo, C. J. J. ALDASORO, and C. NAVARRO. 1998b. Taxonomic revision of *Geranium* L., sections *Divaricata* Rouy and *Batrachioidea* W.D.J. Koch (Geraniaceae). *Annals of the Missouri Botanical Garden* 85: 594–630.
5. Aedo, C; Fiz, O; Alarcon, M. L; Navarro, C; Aldasoro, J. J. 2005. Taxonomic Revision of *Geranium* sect. *Dissecta* (Geraniaceae). *Systematic Botany* (2005), 30(3): pp. 533–558.
6. Catalogue of Life. 2019. Annual Checklist www.catalogueoflife.org
7. Davis, P. H. 1967. Flora of Turkey and the East Aegean Islands. University of Edinburgh. Edinburgh University Press. 2: 340 - 343.
8. GBIF Secretariat (2019). GBIF Backbone Taxonomy. Checklist dataset <https://doi.org/10.15468/39omei> accessed via GBIF.org
9. Jafri, S. M. H. & El-Ghadi, A. 1973. Flora of Libya (Geraniaceae; Ghafoor, A). Al-Faateh University, Faculty of Science. 63: 53 – 55.
10. Mouterde, P. 1970. Nouvelle Flore Du Liban Et De La Syrie. Dar el-Mashreq, Beirut, Libanon. 2: 438 – 439.
11. Pignatti S. 1982. Flora d'Italia . Edagricole. Vol. II, pag. 10.
12. YEO, P. F. 1984. Fruit-discharge-type in *Geranium* (Geraniaceae): its use in classification and its evolutionary implications. *Botanical Journal of the Linnean Society* 89: 1–36.
13. Zohary, M. 1972. Flora Palaestina. The Israel Academy of Science and Humanities. Jerusalem. Vol 2: 230.
14. www.brc.au.ul/plantatlas/plants/geranium-molle